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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,826	03/18/2004	Anne L. Testoni	KLAIP102/P1092	7131
22434	7590	06/23/2005		
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			EXAMINER	
			CHARIOUI, MOHAMED	
			ART UNIT	PAPER NUMBER
			2857	

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No. 10/804,826	Applicant(s) TESTONI, ANNE L.	
	Examiner Mohamed Charioui	Art Unit 2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-19 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/18/04</u> . | 6) <input type="checkbox"/> Other: _____ |

Ex Parte Quayle

1. This application is in condition for allowance except for the following formal matters:

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Drawings

2. **Figure 1** is objected to because boxes are not labeled, The Examiner directs the applicant to 37 C.F.R. 1.84(n) and 1.84(o) which state, "Graphical drawing symbols may be used for conventional elements when appropriate" while "[o]ther symbols which are not universally recognized may be used, subject to approval by the Office" and that "[s]uitable descriptive legends may be used subject to approval by the Office, or may be required by the examiner where necessary for understanding of the drawing". Since the drawing in Figure 1 does not contain conventional elements, the Examiner may require descriptive legends for better understanding of the drawings. See MPEP 608.02.

Claim Objections

3. **Claims 5 and 10-17** are objected to because of the following informalities:

Claim 5 recites the limitation "at least the detector type" in page 16, lines 14-15

There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim 10 recites the limitation " the set of inspection system parameters, the set of known semiconductor specimen parameters, and the initial estimated value for the unknown parameter" in page 17, lines 10-11. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Allowable Subject Matter

4. **Claims 1-19** are allowed.

The following is a statement of reasons for the indication of allowable subject matter: none of the prior art of record teaches or suggests generating a simulated spectrum using a spectrum simulation algorithm based upon the set of inspection system parameters, the set of known semiconductor specimen parameters, and the initial estimated value for the unknown parameter, wherein the simulated spectrum is generated when an appropriate reference spectrum is not part of the X-ray spectrum library and comparing the experimental X-ray spectrum against either the reference spectrum or the simulated spectrum and determining the degree to which the experimental X-ray spectrum matches either the reference or simulated spectrum, in combination with the rest of the claim limitations.

5. Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Prior art

6. The prior art made record and not relied upon is considered pertinent to applicant's disclosure:

Sychev ['496] discloses cargo inspection apparatus and process.

Fessler ['298] discloses method for statistically reconstructing images from a plurality of transmission measurements having energy diversity and image reconstructor apparatus utilizing the method.

Danielsson et al. ['305] disclose diagnostic and therapeutic detector system for imaging with low and high energy x-ray and electrons.

Loesch et al. ['891] disclose calibrated scale in the nanometer range for technical devices used for the high-resolution for ultrahigh-resolution imaging of structures.

Gordon ['342] discloses digital filmless x-ray projection imaging system and method.

Shimizu et al. ['735] disclose illumination light source.

Grodzins et al. ['761] disclose spectrally shaped x-ray inspection system.

Heumann ['850] discloses enhanced thickness calibration and shading correction for automatic x-ray inspection.

Wang et al. ['383] automated and quantitative method for quality assurance of digital radiography imaging system.

Contact information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohamed Charioui whose telephone number is (571)

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272-2213. The examiner can normally be reached Monday through Friday, from 9 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S Hoff can be reached on (571) 272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mohamed Charioui

6/21/05

